**Figure 1:** Block diagram of the MIMO AR model
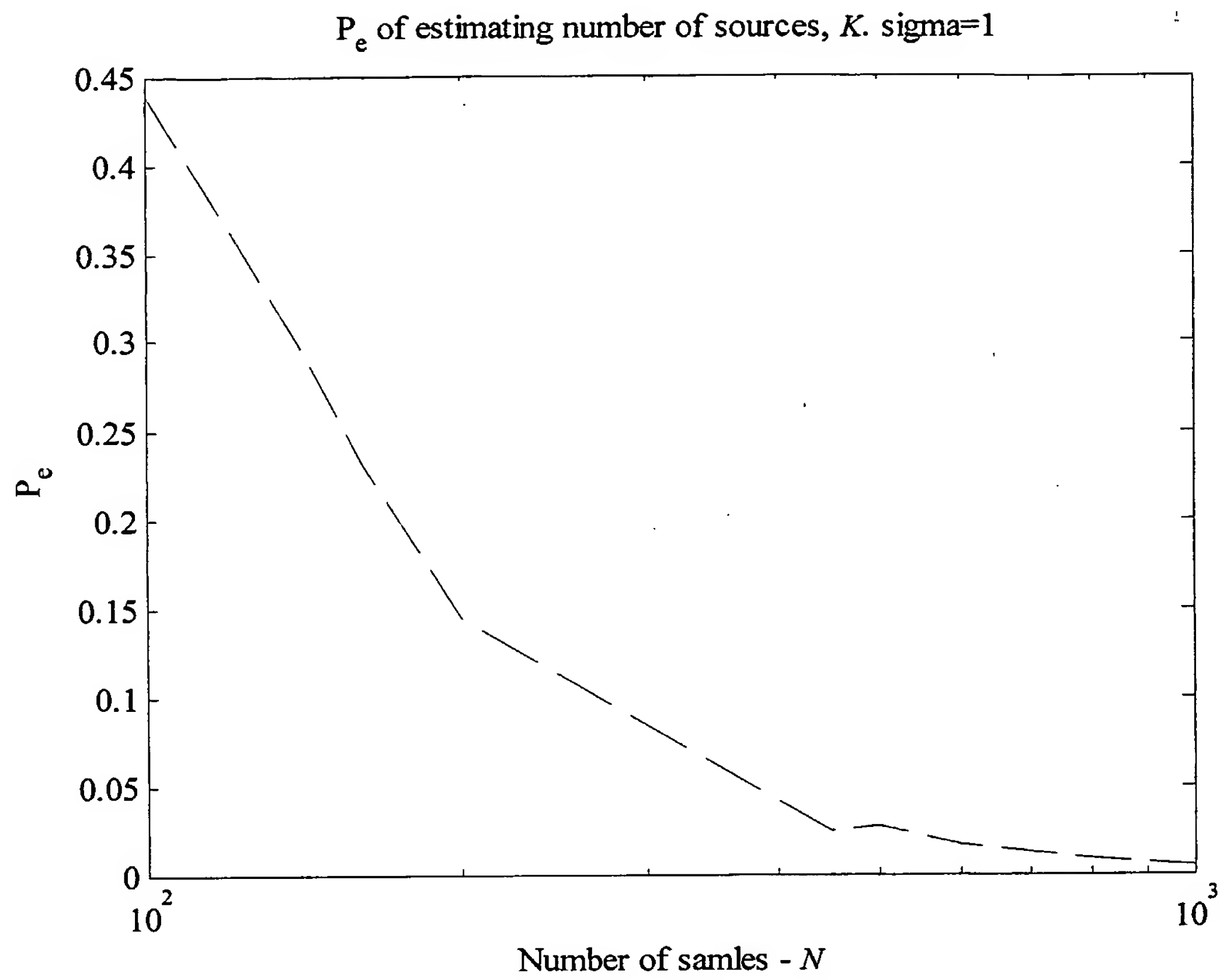
$P_e$ of estimating number of sources, $K$. sigma=1



Figure 2: $P_e$ of GLRT, coherent sources

The eigenvalues of **R**, $K=1$

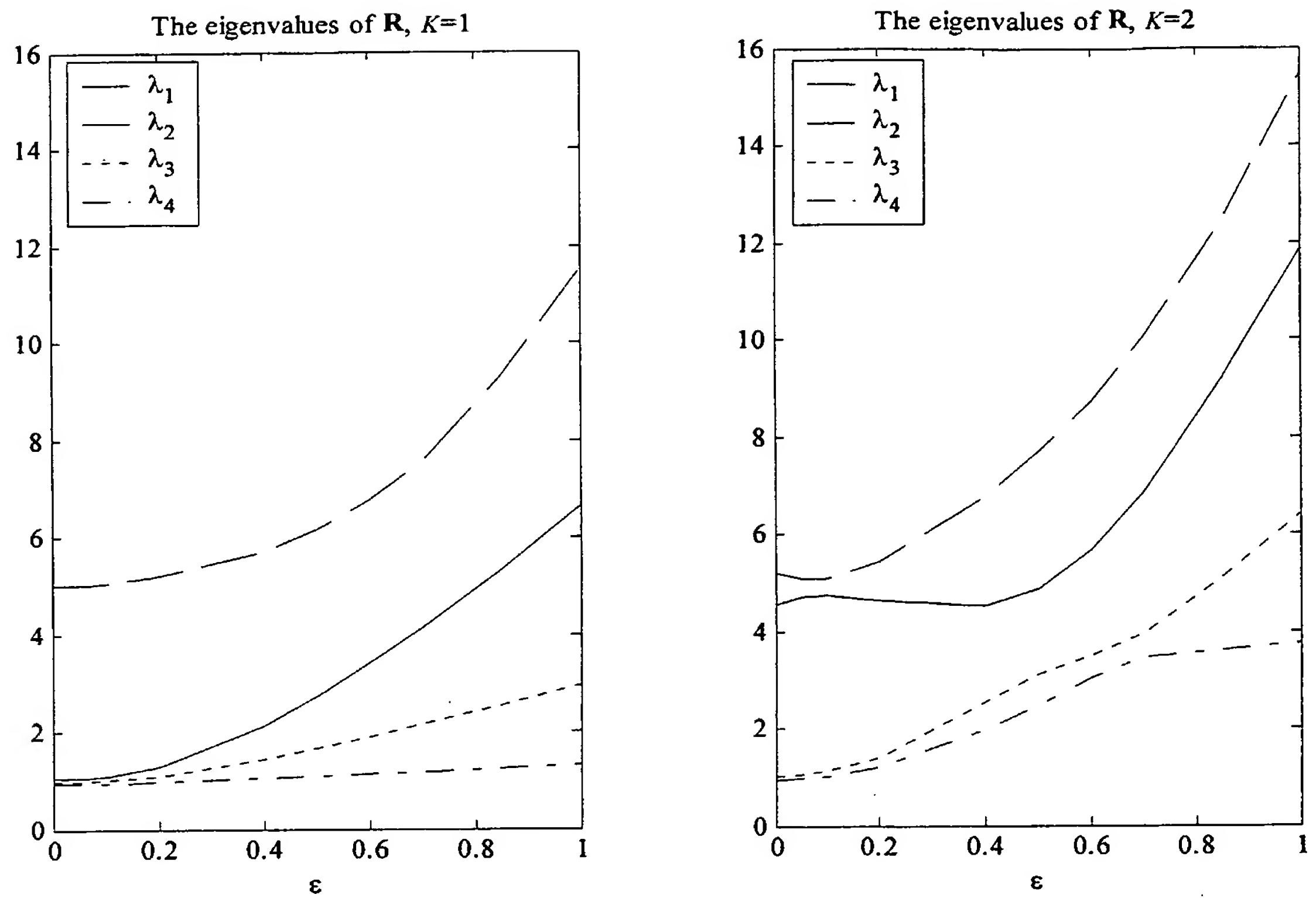The eigenvalues of **R**, $K=2$

**Figure 3:** The eigenvalues of $\hat{\mathbf{R}}$ versus the scattering level, $\varepsilon$.
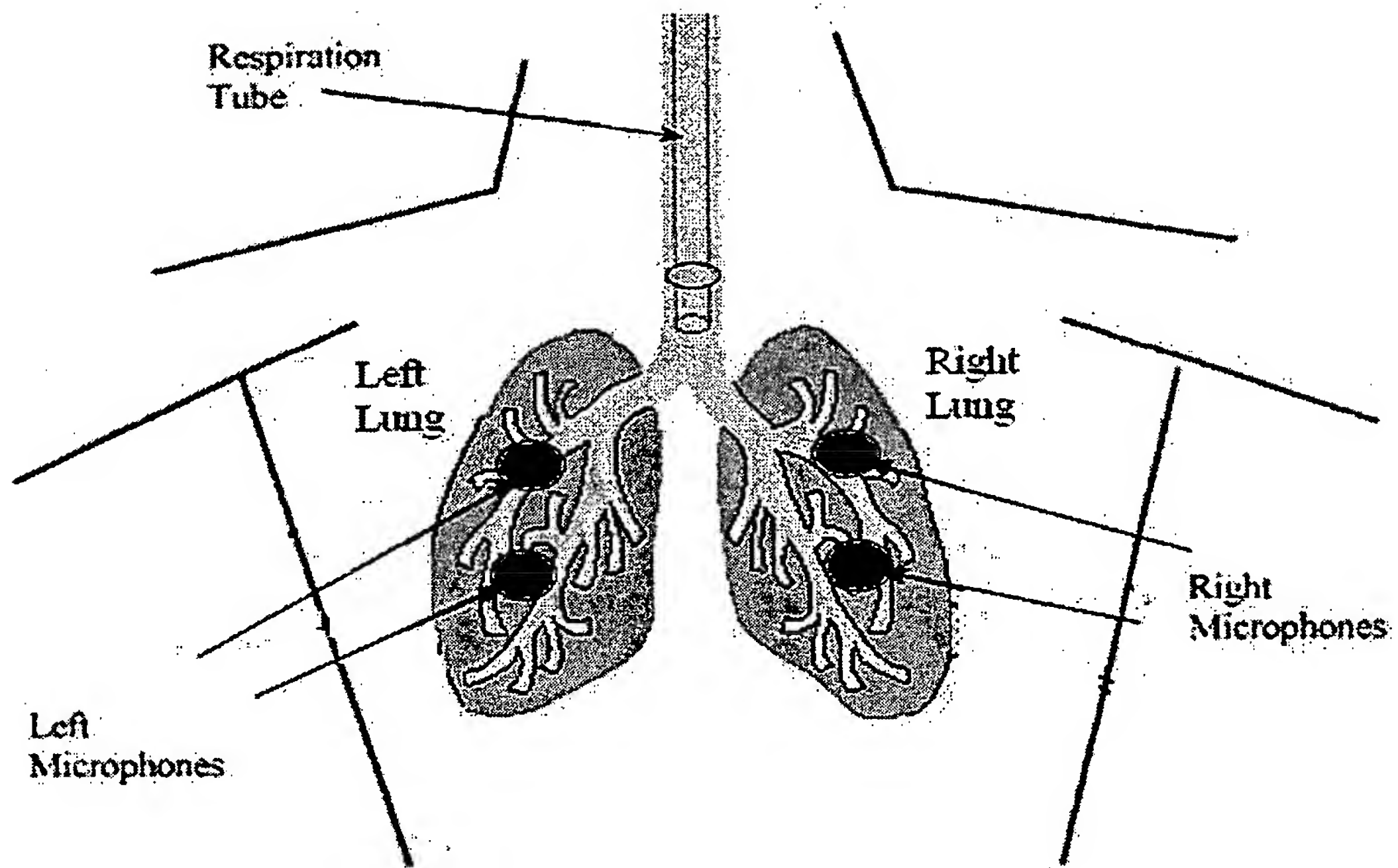
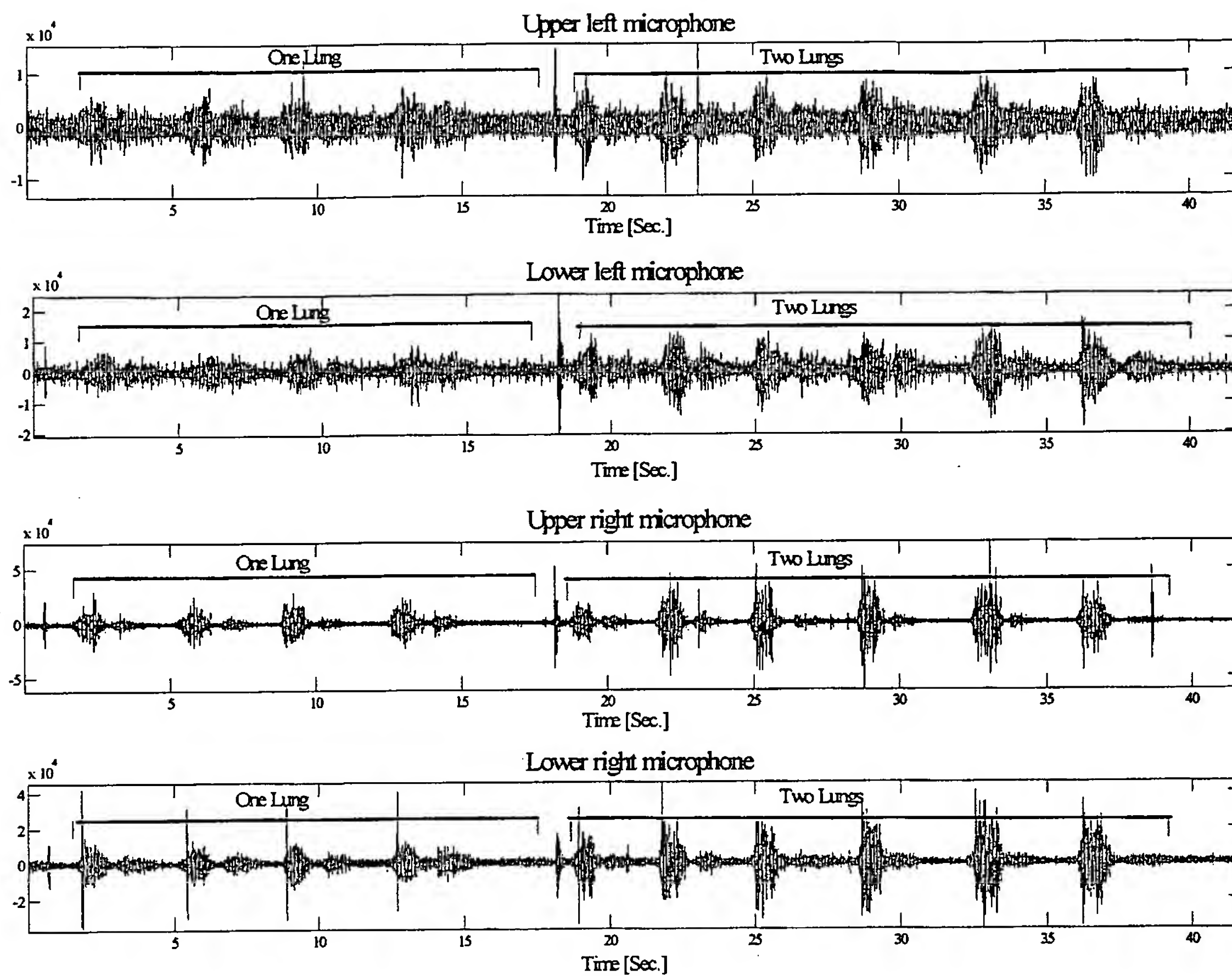**Figure 4:** Experimental set-up – view from back (TRI shown)

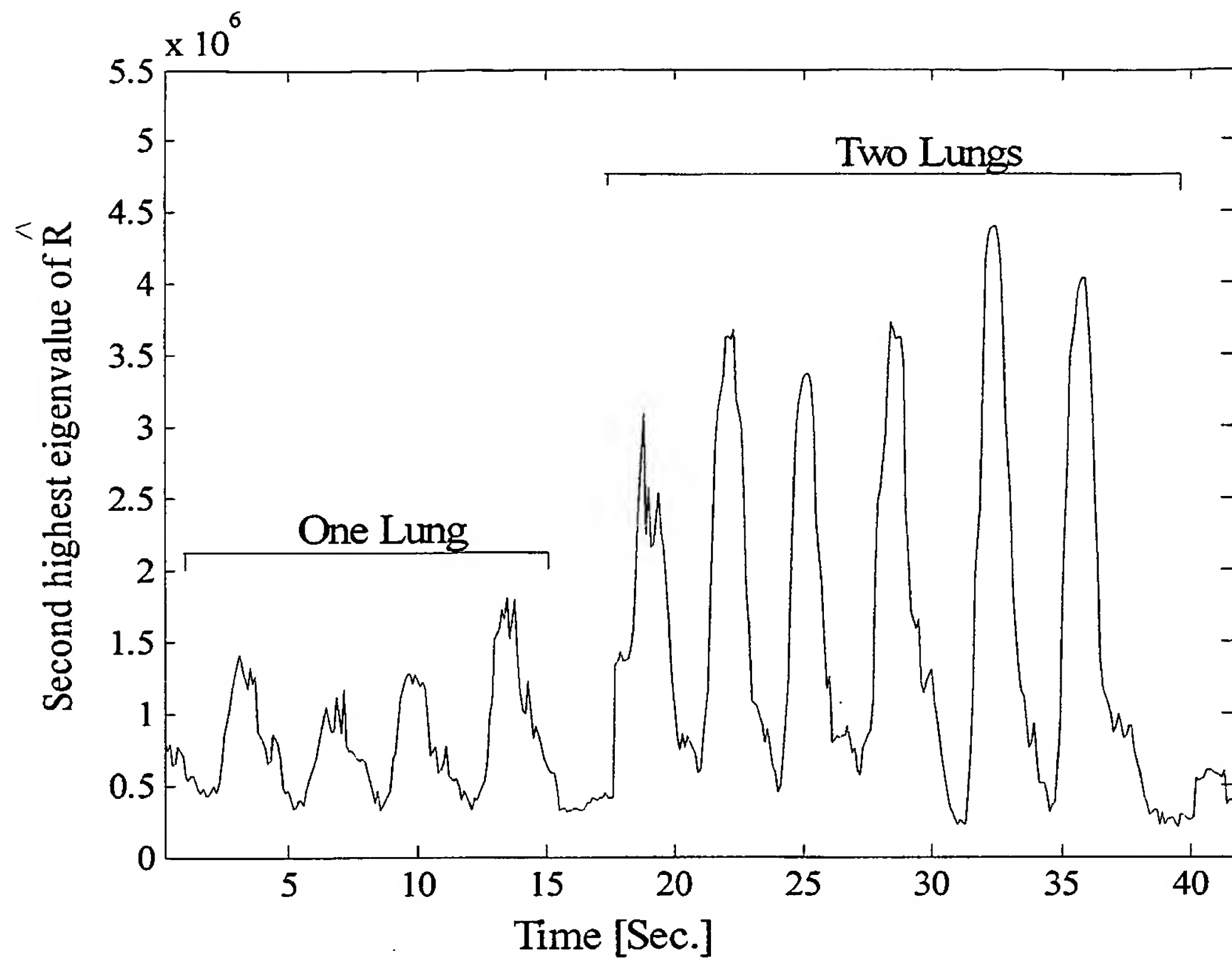**Figure 5:** Examples of the recorded signals – four microphones, OLI and TRI cases.

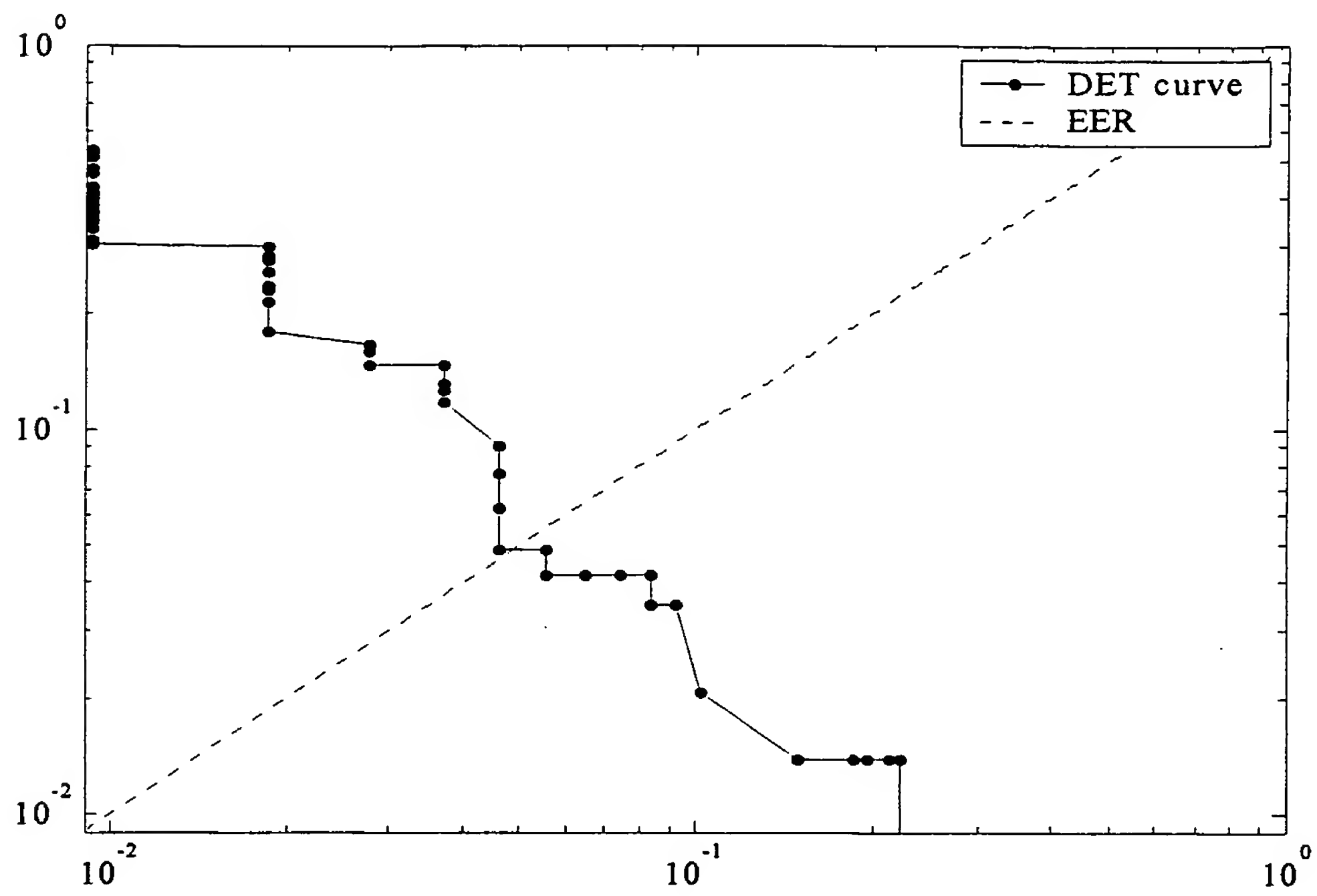**Figure 6:** Second highest eigenvalue of $\hat{R}$ as a function of time.

**Figure 7:** The DET of a detector based on the second highest eigenvalue of the estimated

**R.**